

HVAC SYMBOLS LIST			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	DOUBLE WALL LINED DUCT		AAD AUTOMATIC AIR DAMPER
	DUCT SECTION - SUPPLY		ACC AIR-COOLED CONDENSING UNIT
	ACCESS DOOR		AD ACCESS DOOR
	ACCESS TRIMMED FLOOR		AHU AIR HANDLING UNIT
	DUCT SECTION - RETURN/EXHAUST		AHU AIR HANDLING UNIT
	DUCT SECTION - ROUND DUCT IN INCHES		RBD ROLLER BLOW DOWN
	DUCT SECTION - FLAT OVAL DUCT IN INCHES		BD BACKDRAFT DAMPER
	ACOUSTIC THERMAL LINING		CFM CUBIC FEET PER MINUTE
	FLEXIBLE DUCTWORK		CW CONDENSER WATER RETURN
	FLEXIBLE CONNECTION		DCW DOMESTIC COLD WATER
	FIRE DAMPER		EX EXISTING
	SMOKE DAMPER		EA EXHAUST AIR
	COMBINATION FIRE AND SMOKE DAMPER		EC ELECTRICAL CONTRACTOR
	VOLUME DAMPER		EF EXHAUST FAN
	AIR DUCT		ER EXISTING TO REMAIN
	AIR DUCT		GC GENERAL CONTRACTOR
	MULTI-BLADE AIR EXTRACTOR		HVC HVAC CONTRACTOR
	TURNING VANES		LPS LOW PRESSURE STEAM
	EXISTING WORK TO BE REMOVED (HATCHED)		MC MECHANICAL CONTRACTOR
	POINT OF CONNECTION		NC NORMALLY CLOSED
	POINT OF DISCONNECTION		NO NORMALLY OPEN
	TRANSITION SQUARE TO ROUND		NS NOT TO SCALE
	ROUNDER DIFFUSER ORIFICE (4 WAY)		CA COARSE AIR
	ROUND CEILING DIFFUSER		PC PLUMBING CONTRACTOR
	SQUARE OR RECTANGULAR CEILING GRILLE		RA RETURN AIR
	SUPPLY REGISTER, RETURN OR EXHAUST GRILLE		RTO ROOF/TOP UNIT
	SUPPLY DIFFUSER, 1-WAY, 2-WAY, 3-WAY		RV ROOF VENE
	CEILING DIFFUSER WITH NECK SIZE TYPE A, CFM		SA SUPPLY AIR
	CEILING RETURN OR EXHAUST GRILLE WITH SIZE TYPE A, CFM		TC THERMOSTAT CONTROLS CONTRACTOR
	SUPPLY REGISTER WITH SIZE TYPE A, CFM		UH UNIT HEATER
	RETURN OR EXHAUST GRILLE WITH SIZE TYPE A, CFM		UV UNIT VENTILATOR
	AIR FLOW		V VENTI
	ACOUSTIC/THERMAL DUCTWORK LINING - 1 INCH THICK		
	ACOUSTIC/THERMAL DUCTWORK LINING - 2 INCH THICK		
	ACOUSTIC/THERMAL DUCTWORK PLENUM LINING - 1 INCH THICK		
	ACOUSTIC/THERMAL DUCTWORK PLENUM LINING - 2 INCH THICK		
	SPACE TEMPERATURE SENSOR		

SYMBOLS GENERAL NOTES:

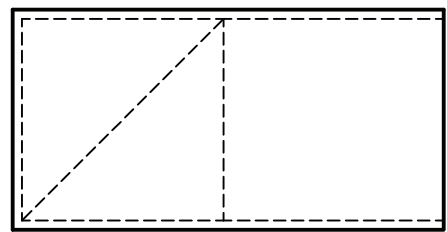
1) VALVE AND DAMPER ACTUATOR TYPES (ELECTRIC OR PNEUMATIC) WHICH ARE INDICATED IN HVAC TEMPERATURE CONTROL DRAWINGS SHALL SUPERSEDE TYPE INDICATED ON ALL OTHER HVAC DRAWINGS.

HVAC CONTRACTOR GENERAL NOTES:

- A. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS WITHIN THE BUILDING PRIOR TO COMMENCEMENT OF ALL DEMOLITION AND NEW WORK.
- B. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE AND REPLACE EXISTING CEILING, UNLESS OTHERWISE NOTED ON THE ARCHITECTURAL DRAWINGS. FOR PERFORMING DEMOLITION OR NEW WORK WITHIN THE BUILDING, THE EXISTING CEILING SHALL BE REMOVED IN A MANNER TO AVOID DAMAGE TO THE CEILING SYSTEMS. STORAGE OF CEILING SYSTEM COMPONENTS FOR REINSTALLATION IS THE RESPONSIBILITY OF THE CONTRACTOR. THE STORAGE OF ALL MATERIAL SHALL BE IN AREAS OR LOCATIONS APPROVED BY THE OWNER. THE OWNER WILL NOT COMPENSATE FOR ANY DAMAGED OR LOST MATERIAL WHILE IN STORAGE. AFTER COMPLETION OF ALL DEMOLITION OR NEW WORK, THE CONTRACTOR SHALL REINSTALL THE CEILING SYSTEMS TO MATCH THE ORIGINAL INSTALLATION.
- C. DEMOLITION DRAWINGS SHOW MAJOR EQUIPMENT, PIPING, AND DUCTWORK REMOVALS. THE INTENT IS NOT TO IDENTIFY ALL MISCELLANEOUS PIPING, PIPING ACCESSORIES, DUCTWORK, DUCTWORK ACCESSORIES, SUPPORTS, CONTROLS, CONTROL ACCESSORIES, CONTROL WIRING, CONDUIT, AND PNEUMATIC CONTROL TUBING TO BE DISCONNECTED AND REMOVED, BUT IS THE REQUIREMENT UNDER THIS CONTRACT. NO EQUIPMENT, PIPING, OR DUCTWORK SHALL BE ABANDONED IN PLACE, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- D. ALL EQUIPMENT INDICATED TO BE TURNED OVER TO THE OWNER SHALL BE DISCONNECTED AND REMOVED FROM THE EXISTING SYSTEMS AND DELIVERED (INCLUDING LOADING AND UNLOADING) TO A STORAGE AREA WITHIN THE BUILDING AS SELECTED BY THE OWNER. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR ANY EQUIPMENT DAMAGED DURING REMOVAL AND DELIVERY. ANY DAMAGE TO EQUIPMENT PRIOR TO DISCONNECTING SHOULD BE REPORTED TO THE OWNER'S REPRESENTATIVE. IF NOT REPORTED, THE CONTRACTOR TAKES FULL RESPONSIBILITY FOR REPAIRS TO THE EQUIPMENT.
- E. BEFORE DISCONNECTING, REMOVING, OR SERVING ANY AIR-CONDITIONING EQUIPMENT OR SYSTEMS CONTAINING REFRIGERANTS, THE EQUIPMENT OR SYSTEMS SHALL BE EVACUATED OF ALL REFRIGERANT BY THE LATEST ADOPTED RULES AND REGULATIONS BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA). THE CONTRACTOR OR TECHNICIAN PERFORMING THE WORK SHALL BE CERTIFIED BY AN EPA APPROVED CERTIFYING AGENCY OR ORGANIZATION.
- F. ALL DUCTWORK, PIPING, AND CONDUIT PENETRATIONS THROUGH RATED WALLS OR FLOORS SHALL BE PROVIDED WITH FIRE/SMOKE STOPPINGS PER SPECIFICATION. REFER TO CODE ANALYSIS DRAWINGS FOR ALL RATED WALL LOCATIONS. ALL FLOORS SHALL BE CONSIDERED RATED.
- G. UNLESS SHOWN ON THE ARCHITECTURAL DRAWINGS, IT IS THE RESPONSIBILITY OF THIS CONTRACT TO PATCH AND FINISH ALL EXISTING DUCTWORK OR PIPE PENETRATIONS THROUGH FLOORS, ROOFS, INTERIOR WALLS, AND EXTERIOR WALLS AFTER DEMOLITION WORK. IN ADDITION, ALL NEW PENETRATIONS SHALL BE PROVIDED FOR INSTALLATION OF MECHANICAL SYSTEMS INCLUDING, BUT NOT LIMITED TO, EQUIPMENT, CURBING, DUCTWORK, PIPING, CONTROLS, ETC. PATCHING AND FINISHING SHALL MATCH EXISTING CONSTRUCTION INCLUDING FIRE RATINGS. PROVIDE UNITS PER UNIT SCHEDULE.
- H. IT IS NOT THE INTENT OF THE DRAWINGS TO SHOW ALL AIR VENTS AND DRAINS IN THE PIPING SYSTEMS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AIR VENTS AT ALL SYSTEM HIGH POINTS AND AT AREAS WITHIN THE PIPING SYSTEMS THAT COULD ACCUMULATE OR TRAP AIR WHICH WOULD PREVENT PROPER VENTING OR OPERATION OF THE SYSTEMS. DRAINS SHALL BE PROVIDED AT ALL LOW POINTS WITHIN THE PIPING SYSTEM TO FACILITATE COMPLETE DRAINING OF THE SYSTEM.
- I. PROVIDE THERMAL EXPANSION COMPENSATORS AND THERMAL EXPANSION LOOPS IN PIPING SYSTEM PER INDUSTRY STANDARDS.

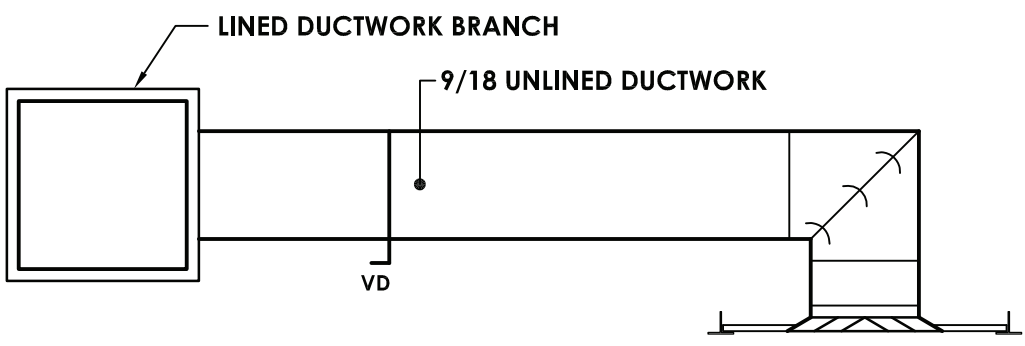
GEORGE FISHER LIBRARY RENOVATION									
		TOTAL	O.A. PER	O.A. PER					
		OCCUPANCY	PERSON	PERSON	SQ. FT.	Vbz			Voz=Vot
ROOM NAME	SQ. FT.	VENTILATION	(CFM)	(CFM)	(CFM)	Ez			(CFM)
LIBRARY	4725	48	5	0.12	807	0.8			1009
BREAKOUT 1	520	20	10	0.12	262	0.8			328
BREAKOUT 2	520	20	10	0.12	262	0.8			328
BREAKOUT 3	280	10	10	0.12	134	0.8			167

REGISTERS, GRILLES, AND DIFFUSERS						
MARK	APPLICATION	MATERIAL	TYPE	FINISH	DESIGN EQUIP.	REMARKS
D1	SUPPLY	STEEL	DUCT GRILLE		PRICE SDGE	1
D2	SUPPLY	STEEL	FACE MNTD		PRICE	
D3	SUPPLY	STEEL	FACE MNTD		PRICE	
R1	RETURN/EA	STEEL	FACE MNTD		PRICE SDGER	
R2	RETURN/EA	STEEL	FACE MNTD		PRICE	
R3	RETURN/EA	STEEL	FACE MNTD		PRICE	
REMARKS: 1. PROVIDE AIR SCOOPS						
2.						
3.						

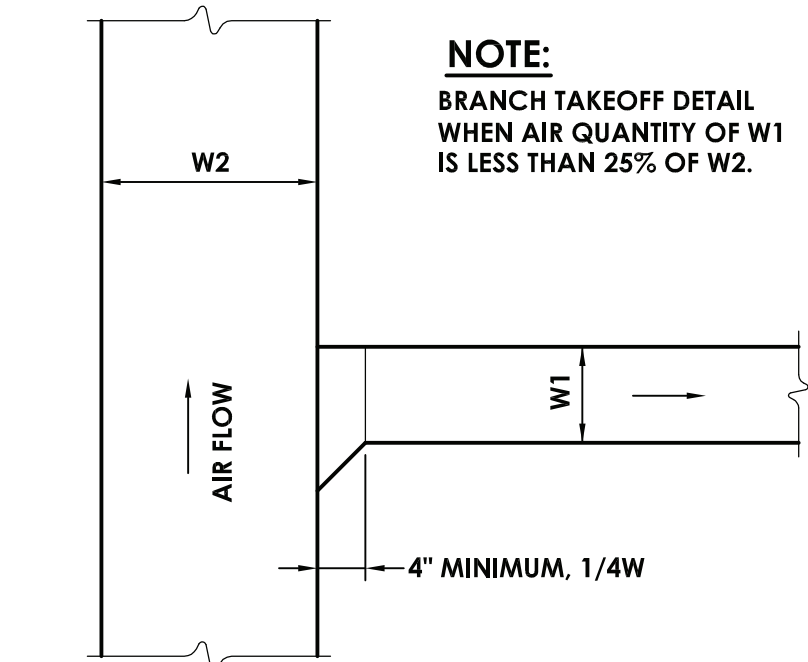
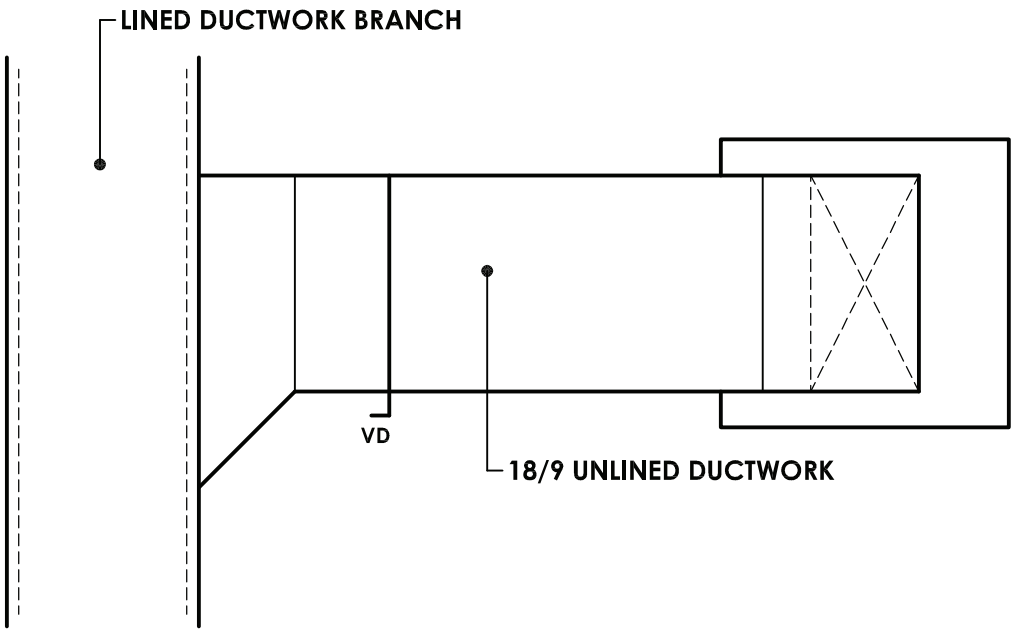


NOTE: COORDINATE HEIGHT OF DUCT BOOT TO AVOID INTERFERENCE WITH LIGHTS AND JOISTS.

3 DUCT BOOT DETAIL
H000 NOT TO SCALE



2 DIFFUSER D-1 DETAIL
H000 NOT TO SCALE



1 BRANCH TAKE-OFF DETAIL
H000 NOT TO SCALE



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REVISIONS			
NO.	DATE	BY	DESCRIPTION
1	11/30/2020	UJ	3RD DOW CONSTRUCTION DOCUMENT SUBMISSION
2	01/07/2021	JG	ADDENDUM #1
3	03/27/2021	JG	ISSUED FOR BID

ENVIRONMENTAL CONSULTANT

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CARMEL HIGH SCHOOL SED#: 48.01.02.06.0.003.022
GEORGE FISHER MIDDLE SCHOOL SED#: 48.01.02.06.0.008.018
MATTHEW PATTERSON SCHOOL SED#: 48.01.02.06.0.010.013
KENT ELEMENTARY SCHOOL SED#: 48.01.02.06.0.001.017
KENT PRIMARY SCHOOL SED#: 48.01.02.06.0.004.016

DATE	DRAWN	CHECKED
11/30/2020	NRH	JJM
SCALE: AS NOTED		
SHEET TITLE		
HVAC SCHEDULES, DETAILS, LEGEND AND ABBREVIATIONS		

PROJECT NUMBER
70019.00
GF H000
DRAWING NUMBER